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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,511	03/02/2004	Jong-Hoon Shin	8021-203 (SS-19469-US)	2746
22150	7590	09/10/2007		
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER SUN, SCOTT C	
			ART UNIT 2182	PAPER NUMBER
			MAIL DATE 09/10/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/791,511	<b>Applicant(s)</b> SHIN ET AL.	
	<b>Examiner</b> Scott Sun	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/13/2007 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 7/13/2007 have been fully considered but they are not persuasive. Applicant's arguments are summarized as:

- a. Prior art of record does not disclose the new claim limitation, "wherein increasing the memory allocation of the transmitting and receiving areas is triggered by a receipt of transmitted data and received data".

3. Regarding argument 'a', applicant argues that unlike the claimed limitation, prior art of record, Bilak, teaches that memory allocation are triggered by fullness of the buffers. In response, examiner notes that Bilak teaches that the transmission and the reception buffer allocations are triggered by a receipt of transmitted data (figure 5, step 630, "waiting for transmission frame") and received data (figure 3, "waiting for incoming frame"). Although the allocation process further checks the respective buffer areas for sufficient space, the process is triggered initially by reception of transmitted and received frames.

4. Having responded to each of applicant's arguments, examiner notes that prior art of record still provides a valid ground of rejection, as attached below.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Bilak et al (PG Pub #2003/0177293).

7. Regarding claim 1, APA discloses a transceiving network controller (system in figure 1) comprising:

a system bus (system bus);

a buffer memory (transmitting memory 110, receiving memory 130) including a transmitting area (transmitting memory 110) and a receiving area (receiving memory 130), the buffer memory for storing and outputting transmitted data in response to at least one transmitting address signal (signals "TWDT", TRDT", "TWAD"... etc) and for storing and outputting received data in response to at least one receiving addressing signal (signals "RREN", RWEN", "RRAD"... etc; background, page 2, lines 1-11).

a transmitting controller (transmitting controller 120) for generating a plurality of transmitting address signals (signals "TWDT", TRDT", "TWAD"... etc), for outputting at least one transmitting write address signal (signals "TWDT", "TWAD", TWEN") of the

plurality of transmitting address signals with data (SYSTD) received from the system bus (page 2, lines 6-7), and for outputting transmitted data output from the buffer memory to a lower layer (physical layer; page 2, lines 7-8), the transmitted data being output from the buffer memory in response to at least one transmitting read address signal (signals "TRDT", "TRAD", "TREN") of the plurality of transmitting address signals (page 2, lines 6-8, also shown in figure 1).

a receiving controller for generating a plurality of receiving address signals (signals "RREN", "RWEN", "RRAD"... etc), for outputting at least one receiving write address signal (signals "RRDT", "RRAD", "RREN") of the plurality of receiving address signals with data (PHYRD) received from the lower layer (physical layer, page 2, lines 8-10), and for outputting received data output from the buffer memory to the system bus (page 2, lines 10-11), the received data being output from the buffer memory in response to at least one receiving read address signal (signals "RWDT", "RWAD", "RWEN") of the plurality of receiving address signals (page 2, lines 8-11, also shown in figure 1).

APA does not disclose explicitly a flow control unit. However, Bilak discloses a flow control unit (processing thread 120, figure 2; paragraph 28, 35) for generating and outputting threshold control signals (R-RDY signals) for increasing the memory allocation of the transmitting area (outbound buffer) when a transmission execution signal (data frame ready for transmission 630) becomes active (paragraph 39), and for increasing the memory allocation of the receiving area (inbound buffer) when a reception execution signal (arrival of data frame 330) becomes active (paragraph 37),

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wherein increasing the memory allocation of the transmitting and receiving areas is triggered by a receipt of transmitted data and received data (triggered at step 630 and 330 of transmission and reception frames); and a maximum transmitting address (maximum capacity of the outbound buffer) and a maximum receiving address (maximum capacity of the inbound buffer) being changed by the threshold control signals (paragraph 35). Examiner notes that Bilak teaches that the inbound and outbound buffer areas can each "borrow" space from each other when overloaded (paragraph 33). This is analogous to the "flexible memory allocation" as claimed. Furthermore, teachings of APA and Bilak are from the same field of data buffering and flow controlling.

Therefore, it would have been obvious at the time of invention for a person of ordinary skill in the art to combine teachings of Bilak and APA by using the buffer space "borrowing" logic disclosed by Bilak in the system disclosed by APA for the benefit of efficient use of buffer space (paragraph 26, 33, Bilak).

8. Regarding claim 2, APA and Bilak combined disclose claim 1, and Bilak further discloses wherein the flow control unit generates a threshold control signal ("no" result returned from test 350 or test 660) for maintaining the memory allocation (space is not borrowed) of the transmitting area and the receiving area when the transmission executions signal and the reception execution signal becomes active simultaneously (when neither buffer areas have more space, or equivalently, when both buffer areas are being fully utilized).

9. Regarding claim 3, APA and Bilak combined disclose claim 1, and Bilak further discloses wherein the flow control units generates a threshold control signal (de-allocation signal) for equalizing the memory allocation of the transmitting area and the receiving area (paragraph 34, 38). Examiner notes that both buffer areas initially have 64 blocks (paragraph 34); blocks "borrowed" by another buffer are returned to the original buffer after use, and therefore equalizing the memory allocation of the two buffer areas.

10. Regarding claim 4, APA and Bilak combined disclose claim 1, and Bilak further discloses wherein the flow control units generates a threshold control signal for maintaining the memory allocation of the transmitting area and the receiving area at a predetermined threshold in accordance with a predetermined setting (paragraph 34, 38). Similar to claim 3, examiner notes that spaces "borrowed" by another buffer are returned to the original buffer after use, and therefore maintaining the memory allocation of the two buffer areas to the original setting.

11. Regarding claim 5 and 6, APA and Bilak combined disclose claim 1, and APA further discloses that the transmitted and received data area transmitted using a half or full duplex method (page 2, lines 11-12).

12. Regarding claims 7-18, examiner notes that limitations of these claims are substantially similar to those in claims 1-6 above, and therefore the same grounds of rejection are applied. Regarding claim 9, examiner notes that Bilak discloses that both buffers are initially empty (shown in figures 3 and 5) and equal in size (paragraph 34) therefore equalized when power is turned on.


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on M-F, 10:30am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

  
KIM HUYNH  
SUPERVISORY PATENT EXAMINER  
8/31/07